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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

APPLICANT: Volkmar HEUER

SERIAL NO. 09/887,676 ATT. DOCKET: 902-739-1

FILED: 23 JAN. 2001 (Herewith) as divis. of 09/150,150

EXAMINER: S. HOM ART UNIT: 2661

TITLE: METHOD FOR TRANSMITTING DATA PACKETS AND
NETWORK ELEMENT FOR CARRYING OUT THE METHOD



INFORMATION DISCLOSURE STATEMENT

JAN. 23, 2001

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, DC 20231

Sir:

A pre-examination search was made by the German Patent Office on or about 16 MAR. 1998 in connection with the German application **DE 197 40 107** from which the present U.S. application claims priority, and the 10 references cited therein are enclosed herewith.

The German search report identifies **no category X** (anticipatory) references. It identifies several **category Y** (obviousness) references, several **category A** (technological background) references, and 3 **category D** (mentioned in application) documents. Applicant comments on the German-cited references, as follows:

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Ellen LaPak

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CATEGORY Y DOCUMENTS

1. **FOGLER/SIEMENS (USP 5,864,356 & DE 195 31 611)** deals with load balancing and capacity control in ATM networks. It does not disclose a transmission system of the SDH or SONET type, nor does it disclose a first interface for IP data packets, a routing table, an IP routing matrix and processing means for packing the data packets into virtual containers or virtual tributaries. Thus, the reference does not anticipate the invention, nor does it render obvious the invention.
2. **HAGSTROM/TELIA AB (WO 96 10 876)** deals with controlling the capacity in a heterogeneous network which consists of different network parts with different transmission capacity. It proposes a central control device which balances the network load according to the available capacity of each part of the network.
3. **SIEGMUND/ALCATEL (USP 5,357,504 & DE 41 06 183)** deals with packet switching of D-channel data packets in ISDN at a low bitrate (max. 16 Kbit/sec) and proposes a connection set-up at OSI layer 3 followed by a data transmission at OSI layer 2 without further evaluation of layer 3 protocol.
4. **RAHNEMA/MOTOROLA (USP 5,430,729 & DE 195 05 905)** deals with satellite data transmission and with finding a path in a worldwide satellite radio network. It proposes to chose the path which has the least number of hops and the lowest link usage probability. It does not disclose to establish virtual connections in a synchronous digital network of the SDH or SONET type.
5. **ALTVATER (DE 43 04 916)** deals with data transmission over a packet-based radio network. It does not mention SDH or SONET type transmission systems. An English-language Derwent abstract of this reference is among the "English abstracts" submitted herewith.
6. **NAMISLO (DE 32 10 462)** deals with packet-based switching in a switching center. Data packets are transmitted over virtual channels which are defined by a destination address and are asynchronous, since packets are not sent periodically. A concentrator is provided between the multiple subscriber trunks and the switching center and selected virtual channels are assigned to each subscriber trunk. This means that, for each subscriber connection, one virtual channel will be

reserved and used. The reference does not mention SDH or SONET type transmission systems.

7. **BEISEL/ALCATEL (USP 5,311,506 & DE 41 16 939)** deals with switching virtual containers within one transport module or between different transport modules of an SDH type system. This task is usually performed by a digital SDH cross-connect. So, the reference teaches how to rearrange the order of the containers **within the frame** but does not teach to reroute any payload (in the present invention, IP packets are the payload of the containers) of any of the containers to another.

CATEGORY A DOCUMENTS

8. **TURBAN (US 5,267,239 & DE 40 15 283)** deals with achieving synchronization on an incoming SDH-type input signal. The method detects a frame synchronization word of an SDH frame and additionally detects ATM cell headers in the payload of the same SDH frame as a second criterion for verifying proper synchronization. This has nothing to do with packing IP data packets into virtual containers according to the information from a routing table. IP structured data packets are not mentioned in this reference; neither is a routing table with entries specifying virtual connections mentioned in it.

9. **POSPISCHIL + MUELLER/SIEMENS (US 5,251,239 & EP 0 415 112-A2)** deals with cross-connecting virtual containers. It proposes to resolve a transport module into containers of the same size, and to decide the network path to which each container should be sent by a central network management. As in BEISEL, POSPISCHIL does not teach evaluating any destination address of payload data packets. Thus, it is just background information for the present invention.

10. **"Synchronous Networks"** in: Electrical Communication, Vol. 65, No. 1, pp. 27-31 (**"Synchrone Netze"** in: Elektrisches Nachrichten in German) gives a short overview of SDH-type transmission systems and is only background information.

CATEGORY D DOCUMENTS

11. The **PARR** article is discussed at specification page 1, lines 11-33. The **Ipsilon** Technical White Paper is discussed at specification page 2, lines 1-15. The **SIMPSON** Request for Comments is discussed at specification page 2, lines 16-28.

The European Patent Office on 20 JUL. 1999, during the prosecution of corresponding application **EP 98-440 178**, issued a search report (Form 1507), a copy of which is enclosed. It cited TAKIYASU et al. USP 5,247,518 as a **category X** reference, and BITZ et al. USP 5,479,401 and MURTON et al. GB 2 278 979 as **category A** references. Applicant submits these, and the related US patents listed on EPO Form PO 461, for the Examiner's consideration.

These references are being submitted **simultaneously with the filing** of this application, so **no IDS fee** is believed required; if any fee is required, kindly charge to Deposit Account 23-0442. To the extent any references are not in English, the English-language equivalents or abstracts provided will suffice to make the relevance of the references readily apparent. **Therefore, this submission complies with MPEP § 609.**

The examiner is requested to **return an initialed copy of the PTO-1449** to confirm that the references have been considered.

Respectfully submitted,



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Enc.: German Search Report from **DE 197 40 107** of MAR. '98
European Search Report from **EP 98-440 178.6** of 20 JUL. '99
Form PTO-1449 (consolidated) & References cited



Sheet 1 of 1

**FORM PTO-1449
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UNITED STATES PATENT DOCUMENTS

EXAM. INITIAL		DOCUMENT NUMBER	DATE	INVENTOR/ASSIGNEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5,103,447	Apr. 1992	Takiyasu + /Hitachi Ltd	370	85.15	
		5,241,543	Aug. 1993	Amada + /Hitachi Ltd	370	100.1	
		5,247,518	Sep. 1993	Takiyasu + /Hitachi Ltd	370	85.15	
		5,251,239	Oct. 1993	Turban + /Alcatel N.V.	375	114	
		5,267,239	Nov. 1993	Pospischil + /Siemens AG	370	112	= EP 415 112 A2
		5,311,506	May, 1994	Beisel/Alcatel N.V.	370	58.1	
		5,323,389	Jun 1994	Bitz + /Fore Systems Inc.	370	60.1	
		5,357,504	Oct. 1994	Siegmund/Alcatel N.V.	370	60	
		5,430,729	Jul. 1995	Rahnema/Motorola	270	94.1	= DE 195 05 905
		5,479,401	Dec. 1995	Bitz + /Fore Systems, Inc.	370	60.1	
		5,689,512	Nov. 1997	Bitz + /Fore Systems, Inc.	370	395	
		5,845,091	Dec. 1998	Dunne et al.	370	400	
		5,864,536	Jan. 1999	Foglar (sp?)/Siemens	370	232	= DE 195 31 611
		5,903,559	May 1999	Acharya et al.	370	347	
		5,951,649	Sep. 1999	Dobbins et al.	370	351	
		5,963,555	Oct. 1999	Takase et al.	370	395	

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UNITED STATES PATENT DOCUMENTS

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

- | | |
|---|--|
| / | J. Cornu et al, "Synchronous Networks" in: <u>Electrical Communication</u> [ISSN 0013-4252], published by Alcatel NV, Paris, France, Vol. 65, No. 1 (OCT. 1991), pp. 27-31 |
| / | G. Parr & S. Wright, "A Proposed Protocol Improvement for ATM Cell Processing Within SDH Multipliers, in <u>ConneXions</u> , Vol. 10, No. 11, Nov. 1996, S. 14-24 |
| / | Ipsilon Networks, "The Intelligence of Routing, the Performance of Switching", Ipsilon Technical White Paper on IP Switching (Sunnyvale CA Feb. 1996, last revised July 10, 1996), 8 pages |
| / | WPI Derwent abstract of DE 195 31 611-C1, FOGLER/SIEMENS, publ. 7 NOV. 1996. |
| / | WPI Derwent abstract of ALTVATER DE 43 04 916-A1, publ. 25 AUG. 1994. |
| / | WPI Derwent abstract of POSPISCHIL & MUELLER/SIEMENS LU 87713 = USP 5,267,239. |
| / | WPI Derwent abstract of NAMISLO + SIMON/SIEMENS DE 32 10 462, publ. 29 SEP. 1983. |
| / | W. Simpson, "Request for Comments (RFC) 1619", Internet Engineering Task Force Network Working Group, i, ii, 1-3 (May 1994) |

Examiner

Date:

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UNITED STATES PATENT DOCUMENTS							
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	INVENTOR/ASSIGNEE	CLASS	SUBCLASS	TRANSLATION YES/NO
	DE	/32 10 462-A1	Sep. 1983	Namislo et al./Siemens AG			WPI Abstract
	EP	/0 415 112-A2	Mar. 1991	Pospischil et al./Siemens AG			= USP 5,267,239
	DE	/43 04 916-A1	Aug. 1994	Altwater			WPI Abstract
	GB	/2,278,979-A	Dec. 1994	Murton + /Northern Telecom	H04J	3/16	In English
	DE	/195 05 905-A1	Oct. 1995	Rahnema/Motorola, Inc.			= USP 5,430,729
	WO	/96-10876	Apr. 1996	Hagstrom/Telia AB			In English
	DE	/195 316 11	Nov. 1996	Fogler/Siemens AG			WPI Abstract

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